

**VIA FEDERAL EXPRESS**

February 28, 2011

Mr. Christopher J. Kanakis  
New Jersey Department of Environmental Protection  
P.O. Box 028  
401 East State Street, 6<sup>th</sup> Floor  
Trenton, New Jersey 08625-0028

**Re: Former Lagoon Surface Improvement Update  
Interim Response Action Project  
Diamond and Standard Chlorine Chemical Co. Inc. Sites  
Kearny, Hudson County, New Jersey**

Dear Mr. Kanakis

Key Environmental, Inc. (KEY) is writing on behalf of the Peninsula Restoration Group (PRG), as a follow-up to your February 23, 2011 visit to the Diamond and Standard Chlorine Chemical Company Inc. sites in Kearny, New Jersey. During the site visit there was some discussion concerning the Former Lagoon surface improvements with respect to the scope of work described in the Final Interim Response Action Workplan (IRAW), dated October 2008.

As you are aware, on December 14, 2010 the PRG submitted a letter to the New Jersey Department of Environmental Protection (NJDEP) that included a summary of proposed activities for the former Western and Eastern Lagoons for the purposes of completing the IRAW. As you'll recall from discussion at the Site on February 23<sup>rd</sup>, the proposed activities are intended to provide sufficient strength within the surface to near-surface materials within these areas to allow construction of the consolidation area described in the IRAW.. Please note that any previous correspondence or references to "solidification" or "stabilization" of the former lagoons does not imply intended remediation of these areas. Rather, these terms apply exclusively to ground improvement technologies for the surface and near surface materials to facilitate overlying construction in accordance with the IRAW. Updated information regarding the intended ground improvement activities within the former Western and Eastern Lagoons is provided below.

SCCC CA Western Lagoon: The IRAW (Section 3.4) provided for the installation of geogrids within the lagoons if necessary to provide tensile strength in areas of poor subgrade support. The installation of the geogrid soil reinforcement system within the former Western Lagoon was initiated in December 2010 to improve the bearing capacity of the near surface materials and accommodate the future placement of materials within the SCCC Consolidation Area. The installation was initiated in accordance with KEY Drawing SC-CA-04 "SCCC Consolidation Area Western Lagoon Stabilization Plan" as well as the document titled "Construction Sequence – Western Lagoon Stabilization" (Revised 11/30/2010). However, adverse weather and Site

conditions precluded the completion of this activity. Therefore, this task will be reinitiated when Site conditions are more favorable.

SCCC CA Eastern Lagoon: Portions of the former Eastern Lagoon's near surface/subgrade contain soft, flowable materials that were observed to "wave" during construction of the slurry wall platform in/adjacent to this area. Following these observations, empirical load testing was conducted at several locations within the Eastern Lagoon that produced similar findings. Therefore, it was determined that simple installation of a geogrid soil reinforcement system like that being implemented within the former Western Lagoon would likely not provide sufficient increased strength to allow future placement of materials within the Consolidation Area here. and lagoon material amendment is required to accommodate the future placement of Consolidation Area materials. To evaluate additional ground improvement approaches, an Eastern Lagoon Solidification Field Pilot Test was completed on December 4, 2010. The results of this Pilot Test showed that near surface lagoon material can be strengthened by incorporating an estimated 15 percent Portland cement (by weight) for the eastern portion (i.e. softest material) of the lagoon; and 10 percent cement (by weight) for other weak lagoon materials. The cement addition process will provide the minimum strength necessary to support overlying construction equipment and operations, and will not inhibit potential future lagoon material removal, if required. A geogrid soil reinforcement system, as provided for by the IRAW, will be installed above the improved Eastern Lagoon surface in order to accommodate the future placement of materials within the SCCC Consolidation Area.

It is our understanding that you would be discussing the proposed approach for improving the structural strength of the lagoon materials with EPA. Please contact us following that discussion to advise us of any concerns with our proposal. In the meantime, do not hesitate to contact Mr. Alan Briggs or me at (412) 279-3363 if you would like to discuss this letter.

Sincerely,

**Key Environmental, Inc.**



James S. Zubrow, P.G.  
Principal Hydrogeologist

cc: A. Hess, USEPA  
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